

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application

LISTING OF CLAIMS:

1-12. (Cancelled)

13. (Currently Amended) A method of cleaning a substrate of a liquid crystal display panel comprising:

first step, moving the substrate including four side surfaces and upper and lower surfaces continuously in a linear direction;

second step, individually brushing two opposing side surfaces among the four side surfaces a side surface of the substrate parallel to the linear direction of the substrate with two cylindrical brushes that rotate a side surface of a cylindrical brush that rotates based on an axis of rotation, wherein the axis of rotation is substantially parallel to the movement linear direction of the substrate movement and the cylindrical brushes are rotated to a direction perpendicular to the movement direction of the substrate;

third step, cleaning the upper and lower surfaces of the substrate with upper and lower brushes; and

fourth step, individually jetting deionized water at high pressure that carries ultrasonic waves with a pair of sonars onto the two opposite side surfaces side surface of the substrate,

wherein cleaning upper and lower surfaces of the substrate, and brushing the side surface of the substrate are simultaneously performed while the substrate is moving continuously in the linear direction, and

wherein the jetting of deionized water is respectively performed to the two opposite side surfaces side surface of the substrate that the brushings of the two opposite side surfaces are performed the brushing of a side surface is completed.

14. (Cancelled)

15. (Cancelled)

16. (Previously Presented) The method of claim 13, wherein cleaning the upper and lower surfaces of the substrate comprises:
rotating cleaning brushes on the upper and lower surface of substrate.

17. (Cancelled)

18. (Previously Presented) The method of claim 16, wherein the cleaning brushes are arranged at the upper and lower surfaces of the substrate, respectively.

19-22. (Cancelled)

23-25. (Cancelled)

26-27. (Cancelled)

28. (Currently Amended) A method of cleaning a substrate having including four side surfaces and upper and lower surfaces ~~an upper surface and a lower surface separated by at least two opposing side surfaces~~, the method comprising:

first step, moving the substrate continuously in a linear direction;

second step, individually brushing at least two opposing side surfaces among the four side surfaces of the substrate parallel to the movement direction of the substrate with cleaning brushes that rotate based on an axis of rotation, ~~along the at least two opposing side surfaces of the substrate in substantially a straight line wherein the axis of rotation is substantially parallel to the movement direction of the substrate and the cylindrical brushes are rotated to a direction perpendicular to the movement direction of the substrate~~;

third step, cleaning at least one of the upper and lower surfaces; and

fourth step, individually spraying water at ~~high pressure~~ that carries ultrasonic waves with a pair of sonars onto the at least two opposite brushed side surfaces of the substrate,

wherein cleaning at least one of the upper and lower surfaces of the substrate, and brushing at least two opposing side surfaces of the substrate are simultaneously performed while the substrate is moving continuously in the linear direction, and

wherein the spraying of water is respectively performed to the two opposite side surfaces side surface of the substrate that the brushings of the two opposite side surfaces are performed the brushing of at least two opposing side surfaces is completed.

29. (Previously Presented) The method of claim 28, further including brushing at least two opposing side surfaces before brushing at least one of the upper and lower surfaces.

30. (Previously Presented) The method of claim 28, wherein the water includes deionized water.

31. (Cancelled)

32. (Previously Presented) The method of claim 28, wherein cleaning at least one of the upper and lower surfaces includes brushing the at least one of the upper and lower surfaces.

33. (Cancelled)

34. (Previously Presented) The method of claim 28, wherein the at least two opposing side surfaces are substantially parallel.

35. (Previously Presented) The method of claim 28, wherein the axis of rotation is substantially parallel to the linear direction of the substrate movement.

36. (Previously Presented) The method of claim 28, further including brushing at least one of the upper and lower surfaces before spraying water that carries ultrasonic waves onto the at least two brushed side surfaces.

37. (Previously Presented) The method of claim 28, further including brushing at least one of the upper and lower surfaces with a plurality of cleaning brushes arranged at each of the at least one of the upper and lower surfaces.

Application No. 10/647,475
Amendment dated March 10, 2009
Response to Office Action dated December 10, 2008

Docket No. 8733.311.10

38-44. (Cancelled)